

ABSTRACT

The present invention is directed to fabrics, preferably woven fabrics, the fabrics including therein a fabric layer having at least one fiber of a first type and at least one fiber that is different from the first type. In preferred embodiments, the fiber of the first type comprises a high performance fiber having a tensile strength of at least about 10 g/Denier and a fiber of the second type comprises a natural or synthetic fiber having a tensile strength less than 10 g/Denier and most preferably, less than about 8 g/Denier. In especially preferred embodiments, the non-performance fiber type can be characterized by one or more desirable attributes, for example, dyability, spinnability, abrasion resistance, breathability, softness, hand fill, etc., which attributes are desired to be imparted to the overall fabric. In preferred embodiments, the fibers comprising high performance materials are blended with fibers having a tenacity of less than 10 g/Denier in such a proportion that the overall fabric, in at least one direction (i.e., in at least the warp or fill direction for a woven fabric), and most preferably in both directions, has a substantially increased level of puncture or tear resistance over that of the low-tenacity fiber. In the most preferred embodiments, the high strength fibers are blended in a proportion enabling the fabric to have a cut, tear, or puncture resistance more similar to that of the high tenacity fiber than that of the low tenacity fiber employed in the construction.